

CLAIM AMENDMENTS

1 - 15. (canceled)

1 16. (new) A roller assembly for advancing and cooling a
2 flexible web, the assembly comprising:

3 a support;

4 a roller rotatable on the support about an axis and
5 having

6 a generally cylindrical jacket centered on the
7 axis and formed with an array of radially
8 throughgoing holes and an array of axially
9 extending passages between the holes, and
10 axially spaced flanges at respective ends of
11 the jacket, one of the end flanges being
12 formed with at least one bridge passage
13 into the cooling passages open, the other
14 end flange being formed with input and
15 output feed passages connected to the feed
16 passages;

17 suction means for drawing air from out of an interior
18 inside and between the flanges of the jacket and thereby sucking
19 air in through the holes, whereby the air being sucked in through
20 the holes adheres the web to the jacket;

21 cooling means for feeding a coolant to the input passage
22 and withdrawing it from the output passage of the other end flange
23 and thereby circulating the coolant in two axially opposite
24 directions through the cooling passages.

1 17. (new) The roller assembly defined in claim 16
2 wherein the bridge passage is an annularly continuous passage into
3 which all of the cooling passages open at the respective end of the
4 jacket.

1 18. (new) The roller assembly defined in claim 18
2 wherein the jacket is generally cylindrical.

1 19. (new) The roller assembly defined in claim 16
2 wherein the jacket has a thermal conductivity of at least 100 W/(m
3 K).

1 20. (new) The roller assembly defined in claim 16
2 wherein the jacket is of aluminum.

1 21. (new) The roller assembly defined in claim 16
2 wherein the cooling passages are spaced angularly by between 10 mm
3 and 100 mm and the cooling passages are between 8 mm and 30 mm in
4 diameter.

1 22. (new) The roller assembly defined in claim 16
2 wherein the jacket has an outer diameter between 200 mm and 1200
3 mm.

1 23. (new) The roller assembly defined in claim 16
2 wherein there are between 1 and 100 holes per 100 cm² of outer
3 surface area of the jacket.

1 24. (new) The roller assembly defined in claim 16
2 wherein the roller surface is formed with shallow grooves into
3 which the holes open.

1 25. (new) The roller assembly defined in claim 16
2 wherein the roller further has

3 a tube coaxially inside the jacket and fixed in
4 the support,

5 axially extending and angularly spaced
6 partitions extending radially from the
7 tube to an inner surface of the jacket,
8 and

9 axially spaced partitions extending generally
10 perpendicular to the axis from the tube
11 between the axially extending partitions
12 and defining therewith inside the jacket a
13 compartment in which an angularly and

axially limited region of the inner jacket surface is exposed.

16 the suction means opening only through the tube into the
17 compartment, whereby air is only drawn through the holes over the
18 limited region of the jacket.

26. (new) The roller assembly defined in claim 25, further comprising

a bearing supporting one of the end plates on the tube;

bearings supporting the other of the end plates on the tube and on the support.

27. (new) The roller assembly defined in claim 26,
further comprising

drive means including a drive wheel connected to one of the end plates for rotating the roller about the axis.

28. (new) The roller assembly defined in claim 25 wherein at least one of the axially spaced partitions is axially shiftable.